PDB55

COMPARISON OF RESOURCE USE AND COSTS IN TYPE 1 DIABETES PATIENTS TREATED WITH DIFFERENT LONG ACTING INSULINS IN A BASAL-BOLUS REGIMEN IN GERMANY

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OBJECTIVES: Compare resource utilization and treatment costs with three different basal insulins in type-1-diabetics (T1D). **METHODS:** A cohort study based on a representative database (IMS® Disease Analyzer) included T1D who had started an intensified conventional therapy (ICT) with NPH-insulin (NPH), insulin glargine (GLA) or insulin detemir (DET) between July 2000 and February 2008 and whose data were continuously documented at least 12 months before and 18 months after ICT initiation. The variables age, gender, diabetes duration, HbA1c, Body Mass Index (BMI), insurance status, geographical region and specification of the practice were collected. Diabetes-related resource utilization (insulin, test strips, lancets, pens, needles, glucose i.v., glucagon, physician visits and hospitalization) and associated direct treatment costs (excluding physicians visits and hospitalization) were determined for a time period of 12 months for patients receiving NPH, GLA and DET, respectively. The results were adjusted applying a multivariate regression model. **RESULTS:** A total of 1218 T1D received an ICT with NPH, 1079 with GLA and 443 with DET, respectively. The unadjusted annual direct treatment costs were €1308 for NPH, €1512 for GLA and €1729 for DET. After adjusting ICT with GLA showed economic advantages compared to NPH (–€234/year; $P < 0.0001$) or DET (–€425/year; $P = 0.2800$). The consumption of basal insulin and test strips was lower in patients treated with GLA compared to NPH (–6.00 U/day; $P = 0.3514$ and –0.31 strips/day; $P = 0.8291$) or DET (–3.23 U/day; $P < 0.0001$ and –0.59 strips/day; $P = 0.0235$). **CONCLUSIONS:** After adjustment this analysis of German real-life data showed that ICT with GLA is related to lower annual treatment costs than ICT with NPH or DET. In view of the equal clinical efficacy as reported in several randomized clinical trials [1, 2] and the economic advantages, GLA should be regarded as the favored therapeutic option in ICT for T1D in Germany.

PDB56

PHARMACOECONOMIC CONSEQUENCES OF LOSARTAN THERAPY IN PATIENTS UNDERGOING DIABETIC END-STAGE RENAL DISEASE IN EU AND USA

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OBJECTIVES: Diabetic nephropathy is the most frequent cause of End Stage Renal Disease (ESRD). As ESRD incidence continuously increases, more resources are needed for treatment. The objective was to evaluate the economic impact of losartan added to the standard care administered to diabetic subjects with ESRD. The analysis has involved more than 500 million inhabitants. **METHODS:** We used standard methods to conduct an economic evaluation comparing the economic outcomes deriving from the administration of losartan added to standard care versus standard care alone in patients with type 2 diabetes mellitus (DM) and nephropathy over 3.4 years. The study was conducted from the perspective of the third-party payer hence. The clinical outcome data were based on the results from the RENAAL trial. Direct medical costs are referred to the purchase costs of losartan and the cost of hospitalizations. The costs were discounted back at an annual rate of 3%. Also sensitivity analysis was performed. **RESULTS:** RENAAL study established that losartan confers strong renal protection in patients with DM and nephropathy. Losartan results into a cost saving in all countries considered: 3 €602.98/Italy, €4531.35/France, €3019.66/Germany, €3949.50/Switzerland and €3855.50/USA per patient. Results are not sensitive to both clinical and economic variables. **CONCLUSIONS:** In addition to the medical benefit, this analysis demonstrates the economic relevance of treatment with losartan in DM patients with nephropathy.

PDB57

LOWER TREATMENT COSTS WITH INSULIN GLARGINE COMPARED TO INSULIN DETEMIR IN TYPE 1 DIABETES PATIENTS TREATED WITH A BASAL-BOLUS REGIMEN IN GERMANY

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OBJECTIVES: To compare, from the perspective of Statutory Health Insurance (SHI) in Germany, direct diabetes-related treatment costs in patients with type 1 diabetes mellitus (T1DM) during the first year after the switch from Neutral Protamin Hagedorn insulin (NPH) to the respective long acting insulin in the course of a basal-bolus insulin regimen (ICT) with insulin glargine or insulin detemir as the basal insulin component. **METHODS:** Natural units of resource consumption incurred by basal and bolus insulin, needles, lancets, and test strips were modelled over a period of 1 year in each of the two cost-minimization analyses, based on the results of two controlled clinical trials [1, 2]. Resources were valued in prices of 15 January 2010 relevant to SHI in the outpatient sector. In the base-case analyses, average values of all the model parameters were applied. In comprehensive sensitivity analyses (impact analysis, analysis of extremes, Monte Carlo simulation), the robustness of the base-case results was tested. **RESULTS:** In the base-case analyses, there were savings of €378 or 15% and €311 or 14%, respectively, per patient and year obtained by insulin glargine compared to insulin detemir. Savings in favour of GLA turned out to be robust in the sensitivity analyses. Even in the analyses of extremes, there were always savings obtained by insulin glargine, irrespective of insulin detemir being given once, once to twice, or twice daily. When simulating real-life conditions the savings obtained by insulin glargine instead of insulin detemir were maintained. **CONCLUSIONS:** Treatment of T1DM patients with insulin glargine as the basal insulin component of an ICT may lead to substantial savings from the German SHI perspective as compared to insulin detemir. [1] Pieber et al. Diabet Med 2007;24:635–42; [2] Heller et al. Clin Ther 2009;31:2086–97.

PDB58

PHARMACOEPIDEMIOLOGICAL ASSAY AND COST-MINIMIZATION ANALYSIS OF ORAL ANTIDIABETIC MEDICATIONS AND INSULINS IN LITHUANIA

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OBJECTIVES: To conduct pharmacoepidemiological research and cost-minimization analysis of oral antidiabetic medications and insulins in Lithuania. **METHODS:** Medications were grouped according to the ATC classification system. Our research results were reported in DDDs per 1000 inhabitants per day (DDD/TID). Calculations of drug prices and total expenditures on antidiabetic medications were made by using data from National Patient Funds Price List in 2006–2009 years. Reference pricing methodology was used to accomplish our cost-minimization analysis. **RESULTS:** Total consumption of hypoglycaemic agents increased by 33% from 21.54 DDD/TID in 2006 to 28.72 DDD/TID in 2009. Utilization of insulin increased by 30% reaching the value 9.43 DDD/TID in 2009 and oral antidiabetic medications increased by 35%—19.29 DDD/TID in 2009. Total expenditures on hypoglycaemic agents increased by 23% from LTL 57.138 mlln in 2006 to LTL 70.531 mlln in 2009 (1EUR = 3.4528LTL). Single DDD prices ranged from 0.70 LTL/DDD to 5.01 LTL/DDD of oral antidiabetics, and from 5.67 LTL/DDD to 2.97 LTL/DDD for insulins. With reference to meta-analysis and NICE recommendations, considering the similar efficacy and safety within drug classes, cost-minimization analysis using the reference-based pricing could be implemented and total expenditures could be decreased by 27% (saving LTL 19 mlln. yearly). **CONCLUSIONS:** Our findings suggest that implementation of reference-based pricing could be a strong fiscal measure helping to rationalize increasing direct health care expenditures by 27%.

PDB59

HEALTH ECONOMIC EVALUATIONS COMPARING THE BASAL INSULIN ANALOGUE GLARGINE (GLA) WITH NEUTRAL PROTAMINE HAGEDORN (NPH) INSULIN IN INTENSIFIED INSULIN THERAPY (ICT) IN PATIENTS WITH TYPE 1 DIABETES: A SYSTEMATIC REVIEW

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OBJECTIVES: To perform a systematic literature review of health economic evaluations comparing GLA with NPH as the basal component of an ICT in patients with type 1 diabetes. **METHODS:** The search was performed between January 1, 2000 and December 1, 2009 via Embase, Medline, the Cochrane Library, the databases of German Medical Science and of DAHTA (Deutsche Agentur für Health Technology Assessment), and abstract books of relevant scientific congresses. The inclusion of retrieved studies was based on predefined criteria. The included studies were assessed according to established methodological and quality aspects. **RESULTS:** A total of seven health-economic evaluations from four different countries were included: six modeling studies, all of them cost-utility analyses (CUA), and one cost-minimization analysis (CMA) based on a claims data analysis. One CUA showed dominance of GLA because of higher utilities and lower costs. The other five CUAs varied in their additional costs per quality adjusted life-year (QALY) gained for treatment with GLA between €3.859 and €57.002 (incremental cost-effectiveness ratio, ICER). The CMA revealed about €160 higher diabetes-specific costs per year for GLA in the German Statutory Health Insurance (SHI) setting. All the included studies showed good quality despite a few constraints. Nevertheless, they all contained enough explanatory power to evaluate the effectiveness of GLA in comparison to NPH. **CONCLUSIONS:** Despite some differences concerning evaluation methods (CUA or CMA), data sources (randomized controlled trial, claims data) and country specific conditions (pricing and reimbursement situation) the identified health economic analyses showed high conformity concerning the main target parameter. Most of the studies (5 of 7) showed a good to very good cost-effectiveness in favour of GLA compared to NPH depending on the respective design of the health economic analysis chosen. **ACKNOWLEDGMENT:** This study was supported by Sanofi-Aventis Deutschland GmbH, Berlin, Germany.

PDB60

HEALTH ECONOMIC EVALUATIONS COMPARING THE BASAL INSULIN ANALOGUES INSULIN GLARGINE (GLA) AND INSULIN DETEMIR (DET) IN INTENSIFIED INSULIN THERAPY (ICT) IN PATIENTS WITH TYPE 1 DIABETES: A SYSTEMATIC REVIEW

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OBJECTIVES: Due to limited health care resources economic evaluations of alternative drug treatment methods become more important, especially in chronic diseases like diabetes mellitus. Therefore, a systematic literature review of health economic evaluations comparing GLA with DET as the basal component of an ICT in patients